

IN THE CLAIMS

Amended claims follow:

1. (Currently Amended) A computer program product embodied on a tangible computer readable medium for controlling a source computer to update out-of-date data stored by a plurality of destination computers with updated data stored by said source computer using a computer network connecting said source computer to said plurality of destination computers, said computer program product comprising:

associating code operable to associate priority data specifying a priority level with each destination computer;

establishing code operable in dependence upon said priority data to establish a plurality of groups of destination computers such that destination computers within a group of destination computers share a common priority level;

generating code operable to generate a plurality of push update tasks driven by said source computer, each push update task serving to transfer said updated data from said source computer to a corresponding group of destination computers via said computer network;

ordering code operable to order said plurality of push update tasks in dependence upon said common priority level of each group of destination computers to which a push update task relates to form a sequence of push update tasks such that push update tasks corresponding to a higher common priority level occur within said sequence before push update tasks corresponding to a lower common priority level; and

execution code operable to sequentially execute said sequence of push update tasks upon said source computer to transfer said updated data from said source computer to said plurality of destination computers via said computer network;

wherein said source computer transfers said updated data to said group of destination computers using multicast messages that are addressed to substantially all destination computers within said group of destination computers;

wherein, if any group of destination computers includes more than a threshold number of destination computers sharing said common priority level, then said

- 3 -

establishing code is operable to split said group to form said plurality of groups of destination computers from said destination computers sharing said common priority level and said ordering code is operable to order corresponding push update tasks to occur sequentially despite sharing said common priority level;

wherein said splitting allocates destination computers sharing a common network portion of said computer network to a common group;

wherein within said group of destination computers sharing said common priority level and being split, destination computers connected and not logged into said computer network are grouped together and split from and treated as having a lower priority level than destination computers connected and logged into said computer network.

2. (Cancelled)

3. (Currently Amended) A computer program product embodied on a tangible computer readable medium as claimed in claim 1, wherein said computer network uses an IP transmission protocol and said multicast messages are IP multicast messages.

4. (Currently Amended) A computer program product embodied on a tangible computer readable medium as claimed in claim 1, wherein said updated data is one or more of:

malware definition data; and
a malware scanner program.

5. (Currently Amended) A computer program product embodied on a tangible computer readable medium as claimed in claim 4, wherein said malware includes one or more of computer viruses, worms, Trojans, banned files, banned words and banned images.

6. (Cancelled)

7. (Cancelled)

8. (Cancelled)

9. (Currently Amended) A computer program product embodied on a tangible computer readable medium as claimed in claim 1, wherein if [[a]]said push update task has not completed updating all destination computers within said corresponding group of destination computers within a timeout period, then said push update task is terminated and updating of destination computers not completed is added to a subsequent push update task.

10. (Currently Amended) A computer program product embodied on a tangible computer readable medium as claimed in claim 9, wherein a user alert message is generated identifying those destination computers for which updating was not completed.

11. (Currently Amended) A method of updating out-of-date data stored by a plurality of destination computers with updated data stored by a source computer using a computer network connecting said source computer to said plurality of destination computers, said method comprising the steps of:

associating priority data specifying a priority level with each destination computer; in dependence upon said priority data, establishing a plurality of groups of destination computers such that destination computers within a group of destination computers share a common priority level;

generating a plurality of push update tasks driven by said source computer, each push update task serving to transfer said updated data from said source computer to a corresponding group of destination computers via said computer network;

ordering said plurality of push update tasks in dependence upon said common priority level of each group of destination computers to which a push update task relates to form a sequence of push update tasks such that push update tasks corresponding to a higher common priority level occur within said sequence before push update tasks corresponding to a lower common priority level; and

- 5 -

sequentially executing said sequence of push update tasks upon said source computer to transfer said updated data from said source computer to said plurality of destination computers via said computer network;

wherein said source computer transfers said updated data to said group of destination computers using multicast messages that are addressed to substantially all destination computers within said group of destination computers;

wherein, if any group of destination computers includes more than a threshold number of destination computers sharing said common priority level, then said step of establishing splits said group to form said plurality of groups of destination computers from said destination computers sharing said common priority level and said step of ordering orders corresponding push update tasks to occur sequentially despite sharing said common priority level;

wherein said step of splitting allocates destination computers sharing a common network portion of said computer network to a common group;

wherein within said group of destination computers sharing said common priority level and being split, destination computers connected and not logged into said computer network are grouped together and split from and treated as having a lower priority level than destination computers connected and logged into said computer network.

12. (Cancelled)

13. (Previously Presented) A method as claimed in claim 11, wherein said computer network uses an IP transmission protocol and said multicast messages are IP multicast messages.

14. (Original) A method as claimed in claim 11, wherein said updated data is one or more of:

malware definition data; and
a malware scanner program.

15. (Original) A method as claimed in claim 14, wherein said malware includes one

or more of computer viruses, worms, Trojans, banned files, banned words and banned images.

16. (Cancelled)

17. (Cancelled)

18. (Cancelled)

19. (Currently Amended) A method as claimed in claim 11, wherein if [[a]]said push update task has not completed updating all destination computers within said corresponding group of destination computers within a timeout period, then said push update task is terminated and updating of destination computers not completed is added to a subsequent push update task.

20. (Original) A method as claimed in claim 19, wherein a user alert message is generated identifying those destination computers for which updating was not completed.

21. (Currently Amended) Apparatus for updating out-of-date data stored by a plurality of destination computers with updated data stored by a source computer using a computer network connecting said source computer to said plurality of destination computers, said apparatus comprising:

associating logic operable to associate priority data specifying a priority level with each destination computer;

establishing logic operable in dependence upon said priority data to establish a plurality of groups of destination computers such that destination computers within a group of destination computers share a common priority level;

generating logic operable to generate a plurality of push update tasks driven by said source computer, each push update task serving to transfer said updated data from said source computer to a corresponding group of destination computers via said computer network;

- 7 -

ordering logic operable to order said plurality of push update tasks in dependence upon said common priority level of each group of destination computers to which a push update task relates to form a sequence of push update tasks such that push update tasks corresponding to a higher common priority level occur within said sequence before push update tasks corresponding to a lower common priority level; and

execution logic operable to sequentially execute said sequence of push update tasks upon said source computer to transfer said updated data from said source computer to said plurality of destination computers via said computer network;

wherein said source computer transfers said updated data to said group of destination computers using multicast messages that are addressed to all destination computers within said group of destination computers;

wherein, if any group of destination computers includes more than a threshold number of destination computers sharing said common priority level, then said establishing logic is operable to split said group to form said plurality of groups of destination computers from said destination computers sharing said common priority level and said ordering logic is operable to order corresponding push update tasks to occur sequentially despite sharing said common priority level;

wherein said splitting allocates destination computers sharing a common network portion of said computer network to a common group;

wherein within said group of destination computers sharing said common priority level and being split, destination computers connected and not logged into said computer network are grouped together and split from and treated as having a lower priority level than destination computers connected and logged into said computer network.

22. (Cancelled)

23. (Previously Presented) Apparatus as claimed in claim 21, wherein said computer network uses an IP transmission protocol and said multicast messages are IP multicast messages.

- 8 -

24. (Original) Apparatus as claimed in claim 21, wherein said updated data is one or more of:

malware definition data; and
a malware scanner program.

25. (Original) Apparatus as claimed in claim 24, wherein said malware includes one or more of computer viruses, worms, Trojans, banned files, banned words and banned images.

26. (Cancelled)

27. (Cancelled)

28. (Cancelled)

29. (Currently Amended) Apparatus as claimed in claim 21, wherein if [[a]]said push update task has not completed updating all destination computers within said corresponding group of destination computers within a timeout period, then said push update task is terminated and updating of destination computers not completed is added to a subsequent push update task.

30. (Original) Apparatus as claimed in claim 29, wherein a user alert message is generated identifying those destination computers for which updating was not completed.

31. (Previously Presented) A computer program product as claimed in claim 1, wherein said multicast messages that are addressed to said destination computers within said group of destination computers include a shared push update task.

32. (Previously Presented) A computer program product as claimed in claim 1, wherein each destination computer stores said priority data thereof specifying said priority level associated with said destination computer and communicates said priority

- 9 -

data thereof with said source computer in response to a first connection with said source computer.